AMENDMENTS TO THE CLAIMS

1.   (Currently amended)   A ~~software architecture~~ computer system to provide one or more product selections to a user in accordance with an analysis of user needs, the computer system comprising:

a database ~~layer~~ to store pre-generated product configurations and store product configuration information, wherein the product configuration information comprises product features and product rules governing allowable combinations of the product features;

a memory;

a processor coupled to the memory and the database;

a data receiving module, stored in the memory, to receive product related data from the user through a communication link coupled between a data processing system of the user and the data receiving module, wherein the product related data is a member of a group of information types comprising attribute information and product identifier information;

a needs analysis module, stored in the memory, to process the received product related data and determine which type of information is included in the received product related data;

a filter service module, stored in the memory, to process, if the product related data is attribute information, the received product related data in accordance with the product configuration information stored in the database and identify one or more product configurations that meet requirements of the received attribute information;

a configuration service module, stored in the memory, to identify one or more of the pre-generated product configurations stored in the database that corresponds to the received product related data, if the product related data is product identifier information; and

a presentation module, stored in the memory, to provide each identified product configuration and each identified pre-generated product configuration to the user via the communication link.

~~a services layer, coupled to said database layer; and~~

~~a needs analysis module, coupled to said services layer.~~

2.   (Currently amended)   The ~~software architecture~~ computer system of claim 1, ~~wherein said needs analysis module is configured to permit identification of a product based on attribute information~~ further comprising:
   a software configuration engine stored in the memory to generate the pre-generated
      product configurations.

3.   (Currently amended)   The ~~software architecture~~ computer system of claim 1, ~~wherein said services layer~~ wherein the data receiving module is further configured to receive data indicating a user selected product, wherein the selected product corresponds to one of the identified product configurations, and the data receiving module is further configured to receive product configuration selections from the user to further configure the selected product, the computer system further comprising:
   a software configuration engine, stored in the memory, to generate configured product
      data corresponding to the product configuration selections associated with the
      selected product and in accordance with the product configuration information;
      and
   wherein the presentation module is further configured to present the configured product
      data to the user via the communication link.
~~comprises a filter service.~~

4.   (Currently amended) The ~~software architecture~~ computer system of claim ~~3~~ 1, wherein
   said filter service module is further configured to provide a product identifier to said
      needs analysis module in response to ~~a product~~ attribute information received
      from said needs analysis module,
   said product identifier identifies a product, and
   said ~~product~~ attribute information is an attribute of said product.

5.   (Currently amended)   The ~~software architecture~~ computer system of claim 4, wherein

said database layer comprises a database, and

said filter service module is further configured to use said ~~product~~ attribute information to retrieve said product identifier from said database.

6.   (Currently amended)   The ~~software architecture~~ computer system of claim ~~3~~ 1, wherein

said database layer comprises a database, and

said database contains product identifier information, and attribute information ~~and configuration information~~.

7.   (Currently amended)   The ~~software architecture~~ computer system of claim 6, wherein said database comprises:

a configuration table to store the pre-generated product configurations, and

an attribute table.

8.   (Currently amended)   The ~~software architecture~~ computer system of claim 7, wherein

said configuration table contains said product identifier information ~~and said configuration information~~, and

said attribute table contains said attribute information.

9.   (Currently amended)   The ~~software architecture~~ computer system of claim 7, wherein

said attribute table comprises an attribute record comprising an attribute field containing said attribute information, and an intersection field containing a reference to said configuration record, and

said configuration table comprises a configuration record comprising a configuration field containing said ~~configuration information~~ pre-generated product configurations, and an identifier field containing said product identifier information.

10.   (Currently amended)   The ~~software architecture~~ computer system of claim 9, wherein

~~said configuration information~~ each pre-generated product configuration describes a
configuration of a product,

said attribute information describes an attribute of said product, and

said configuration of said product includes said attribute of said product.

11.   (Currently amended)   The ~~software architecture~~ computer system of claim 9, wherein

said needs analysis module is configured to access said product configuration information by virtue of said needs analysis module being configured to supply said attribute information to said filter service, and

said filter service module is configured to access said database by virtue of being configured to access said database using said attribute information.

12.   (Currently amended)   The ~~software architecture~~ computer system of claim 9, wherein

said reference allows said filter service module to access said configuration record by virtue of said filter service module being configured to access said attribute record using said attribute information.

13.   (Currently amended)   The ~~software architecture~~ computer system of claim 1, wherein said needs analysis module is configured to permit identification of a product configuration based on product identifier information.

14.   Canceled.

15.   (Currently amended)   The ~~software architecture~~ computer system of claim ~~14~~ 1, wherein said configuration service module is configured to provide a configuration list to said needs analysis module in response to a product identifier received from said needs analysis module~~, and~~

~~said product identifier identifies a product~~.

16.   (Currently amended)   The ~~software architecture~~ computer system of claim 15, wherein

said configuration list is a list of available features of said product.

17.   (Currently amended)   The ~~software architecture~~ computer system of claim 15, wherein

said configuration list is a list of configurations of said product.

18.   (Currently amended)   The ~~software architecture~~ computer system of claim 15, wherein

~~said database layer comprises a database, and~~

said configuration service is configured to use said product identifier to generate said

configuration list from information stored in said database.

19.   (Currently amended)   The ~~software architecture~~ computer system of claim 14, wherein

~~said database layer comprises a database, and~~

said database contains product identifier information ~~and configuration information~~.

20.   (Currently amended)   The ~~software architecture~~ computer system of claim 19, wherein said database comprises:

a configuration table containing said product identifier information and said configuration

information.

21.   (Currently amended)   The ~~software architecture~~ computer system of claim 20, wherein

said needs analysis module is configured to access said <u>pre-generated product</u>

configuration information by virtue of said needs analysis module being

configured to supply said product identifier information to said configuration

service <u>module</u>, and

said configuration service <u>module</u> is configured to access said database by virtue of being

configured to access said database using said product identifier information.

22.   (Currently amended)   The ~~software architecture~~ computer system of claim 20,

wherein said configuration table comprises a configuration record comprising

a configuration field containing said <u>pre-generated product</u> configuration

information, and

an identifier field containing said product identifier information.

23. (Currently amended) The ~~software architecture~~ computer system of claim 22, wherein

said pre-generated product configuration information describes a configuration of said product, and

said product identifier information identifies said configuration of said product.

24. (Currently amended) A ~~software architecture~~ computer program product encoded in a computer readable medium, the computer program product comprising code executable on a computer system to provide one or more product selections to a user in accordance with an analysis of user needs, the code comprising instructions to: ~~comprising:~~

receive product related data from the user through a communication link coupled between a data processing system of the user and the computer system, wherein the product related data is a member of a group of information types comprising attribute information and product identifier information;

process the received product related data;

determine which type of information is included in the received product related data;

process, if the product related data is attribute information, the received product related data in accordance with product configuration information and identify one or more product configurations that meet requirements of the received attribute information, wherein the product configuration information comprises product features and product rules governing allowable combinations of the product features;

identify one or more of pre-generated product configurations that corresponds to the received product related data, if the product related data is product identifier information; and

provide each identified product configuration and each identified pre-generated product configuration to the user via the communication link.

~~a database layer; and~~

~~a services layer, wherein said services layer is coupled to said database layer and~~

~~comprises a filter service.~~

25. (Currently amended) The ~~software architecture~~ computer program product of claim 24, wherein ~~said filter service is configured~~ the code further comprises code to permit identification of a product based on attribute information.

26. (Currently amended) The ~~software architecture~~ computer program product of claim 24, ~~further comprising:~~ wherein the code further comprises code to:

    receive data indicating a user selected product, wherein the selected product corresponds to one of the identified product configurations;

    receive product configuration selections from the user to further configure the selected product;

    generate configured product data corresponding to the product configuration selections associated with the selected product and in accordance with the product configuration information; and

    provide the configured product data to the user via the communication link.

    ~~a module layer, coupled to said services layer, wherein said module layer comprises a needs analysis module.~~

27. (Currently amended) The ~~software architecture~~ computer program product of claim 26, wherein the code further comprises code to:

    provide a product identifier to said needs analysis module in response to ~~a product~~ attribute information,

    said product identifier identifies a product, and

    said ~~product~~ attribute information is an attribute of said product.

28. (Currently amended) The ~~software architecture~~ computer program product of claim 27, wherein the code further comprises code to:

    ~~said database layer comprises a database, and~~

    ~~said filter service is configured to~~ use said ~~product~~ attribute information to retrieve said product identifier from said database.

29. (Currently amended) The ~~software architecture~~ computer program

S/N: 09/770,694

product of claim 26 further comprises a data structure, the data structure comprising information resident in a database, the information comprising:, ~~wherein~~

~~said database layer comprises~~ data structure stored in said memory, said data structure~~including information resident in a database~~ a database ~~framework, and~~

~~said database contains~~ product identifier information, and attribute information ~~and configuration information~~.

30.   (Currently amended)   The ~~software architecture~~ computer program product of claim 29, wherein said ~~database~~ data structure further comprises:

a configuration table to store the pre-generated product configurations, and

an attribute table.

31.   (Currently amended)   The ~~software architecture~~ computer program product of claim 30, wherein

said configuration table contains said product identifier information ~~and said configuration information~~

said attribute table contains said attribute information.

32.   (Currently amended)   The ~~software architecture~~ computer program product of claim 30, wherein

said attribute table comprises an attribute record comprising an attribute field containing said attribute information, and an intersection field containing a reference to said configuration record, and

said configuration table comprises a configuration record comprising a configuration field containing said ~~configuration information~~ pre-generated product configurations, and an identifier field containing said product identifier information.

33.   (Currently amended)   The ~~software architecture~~ computer program product of claim 32, wherein

~~said configuration information~~ each pre-generated product configuration describes a configuration of a product,

said attribute information describes an attribute of said product, and

said configuration of said product includes said attribute of said product.

34. (Currently amended) The ~~software architecture~~ computer program product of claim 32, wherein the code is further configured to:
~~said needs analysis module is configured to~~ access said product configuration information by virtue of ~~said needs analysis module being configured to supply~~ supplying said attribute information to said filter service, and
~~said filter service is configured to~~ access said database by virtue of being configured to access said database using said attribute information.

35. (Currently amended) The ~~software architecture~~ computer program product of claim 32, wherein
said reference allows ~~said filter service~~ the code to access said configuration record by ~~virtue of said filter service module being configured to access~~ accessing said attribute record using said attribute information.

36. Canceled.

37. (Currently amended) The ~~software architecture~~ computer program product of claim 24, wherein said ~~needs analysis module is configured~~ code further comprises code to permit identification of a product configuration based on product identifier information.

38. Canceled.

39. (Currently amended) The ~~software architecture~~ computer program product of claim 24, wherein the code further comprises ~~further comprising~~:
~~a module layer, coupled to said services layer, wherein said module layer comprises a~~ needs analysis module.

40. (Currently amended) The ~~software architecture~~ computer program product of claim 39, wherein said code further comprises code to:
~~said configuration service is configured to~~ provide a configuration list to said needs analysis module in response to a product identifier received from said needs

analysis module, and

~~said product identifier identifies a product~~.

41.   (Currently amended)   The ~~software architecture~~ computer program product of claim 40, wherein

said configuration list is a list of available features of said product.

42.   (Currently amended)   The ~~software architecture~~ computer program product of claim 40, wherein

said configuration list is a list of configurations of said product.

43.   (Currently amended)   The ~~software architecture~~ computer program product of claim 40, wherein said code further comprises code to:

~~said database layer comprises a database, and~~

~~said configuration service is configured to~~ use said product identifier to generate said configuration list from information stored in said database.

44.   (Canceled).

45.   (Currently amended)   The ~~software architecture~~ computer program product of claim [44] 29 , wherein said ~~database~~ data structure further comprises:

a configuration table containing said product identifier information ~~and said configuration information~~.

46.   (Currently amended)   The ~~software architecture~~ computer program product of claim 45, wherein said code further comprises code to:

~~said needs analysis module is configured to~~ access said configuration information by virtue of ~~said needs analysis module being configured to supply~~ supplying said product identifier information to ~~said~~ a configuration service, and

~~said configuration service is configured to~~ access said database by virtue of being configured to access said database using said product identifier information.

47.   (Currently amended)   The ~~software architecture~~ computer program product of claim 45, wherein

said configuration table comprises a configuration record comprising a configuration

field containing said ~~configuration information~~ <u>pre-generated product</u>

<u>configurations,</u> and an identifier field containing said product identifier

information.

48.   (Currently amended)   The ~~software architecture~~ <u>computer program</u>

<u>product</u> of claim 47, wherein

said configuration information describes a configuration of said product, and

said product identifier information identifies said configuration of said product.

49.   (Canceled).

50.   (Canceled).

51.   (Currently amended)   A method ~~for identifying a product~~ <u>to provide one</u>

<u>or more product selections to a user in accordance with an analysis of user needs, the method</u>

comprising:

<u>receiving product related data from the user through a communication link coupled</u>

<u>between a data processing system of the user and a computer system, wherein the</u>

<u>product related data is a member of a group of information types comprising</u>

<u>attribute information and product identifier information;</u>

<u>processing the received product related data using resources of the computer system;</u>

<u>determining which type of information is included in the received product related data;</u>

<u>processing, if the product related data is attribute information, the received product</u>

<u>related data in accordance with product configuration information and identify</u>

<u>one or more product configurations that meet requirements of the received</u>

<u>attribute information, wherein the product configuration information comprises</u>

<u>product features and product rules governing allowable combinations of the</u>

<u>product features;</u>

<u>identifying one or more of pre-generated product configurations that corresponds to the</u>

<u>received product related data, if the product related data is product identifier</u>

<u>information; and</u>

<u>providing each identified product configuration and each identified pre-generated product</u>

configuration to the user via the communication link.

~~providing an attribute to a filter service;~~

~~identifying a product identifier corresponding to said attribute by causing said filter~~
~~service to query a database using said attribute; and~~

~~causing said filter service to return said product identifier.~~

52.   (Currently amended)   The method of claim 51, wherein
said product identifier <u>information</u> is associated with a product configuration, and
said product configuration represents a product having ~~said~~ <u>an</u> attribute <u>represented in</u>
<u>said attribute information</u>.

53.   (Currently amended)   The method of claim 52, further comprising:
causing a needs analysis module to provide said attribute <u>information</u> to ~~said~~ <u>a</u> filter
service; and
causing said filter service to return said product identifier <u>information</u> to said needs
analysis module.

54.   (Currently amended)   The method of claim 51, <u>further comprising:</u>
~~wherein said~~
querying ~~said~~ <u>a</u> database of said computer system, wherein querying said database
comprises:
accessing an attribute table of said database using said attribute <u>information</u>; and
accessing said product identifier <u>information</u> in a configuration table of said
database using a reference in said attribute table associated with a record
of said attribute table accessed using said attribute.

55.   (Currently amended)   The method of claim 54, wherein
said product identifier <u>information</u> is associated with a product configuration, and
said product configuration represents a product having said attribute.

56.   (Original)   The method of claim 55, wherein
said configuration table comprises said product configuration.

57.   (Currently amended)   ~~A method for identifying a product~~ <u>The method of</u>

claim 51 further comprising:

    providing ~~an~~ said product identifier information to a configuration service;

    identifying ~~a~~ said pre-generated product configuration corresponding to said product

        identifier information by causing said configuration service to query a database

        using said product identifier information; and

    causing said configuration service to return said identified pre-generated product

        configuration.

58.   (Currently amended)   The method of claim 57, wherein said product identifier information is associated with a pre-generated product configuration in said database.

59.   (Currently amended)   The method of claim 58, further comprising:

    causing a needs analysis module to provide said product identifier information to said

        configuration service; and

    causing said configuration service to return said pre-generated product configuration to

        said needs analysis module.

60.   (Currently amended)   The method of claim 57, wherein said querying said database comprises:

    accessing a configuration table of said database using said product identifier information

        to identify said pre-generated product configuration.

61.   (Currently amended)   The method of claim 60, wherein

    said pre-generated product configuration is associated with said product identifier

        information.

62.   (Currently amended)   ~~A method for identifying a product comprising:~~ The method of claim 51 further comprising:

    receiving data indicating a user selected product, wherein the selected product

        corresponds to one of the identified product configurations;

    receiving product configuration selections from the user to further configure the selected

        product;

generating configured product data corresponding to the product configuration selections associated with the selected product and in accordance with the product configuration information; and

providing the configured product data to the user via the communication link.

~~selecting a selected feature from a plurality of features, wherein said product is one of a plurality of products, said product is configured with said selected feature, and each of said products is configured with at least one of said features;~~

~~determining which of said products is configured with said selected feature; and~~

~~identifying said product as being configured with said selected feature.~~

63.   (Cancelled)

64.   (Currently amended)   The method of claim ~~63~~ 51, wherein said product ~~is~~ related data includes data related to a vehicle.

65.   (Currently amended)   The method of claim 64, wherein said ~~selected feature is~~ product configuration selections comprise a make of said vehicle.

66.   (Currently amended)   The method of claim 64, wherein said ~~selected feature is~~ product configuration selections comprise a model of said vehicle.

67.   (Currently amended)   The method of claim 64, wherein said ~~selected feature is~~ product configuration selections comprise a trim level of said vehicle.

68.   (Currently amended)   The method of claim 64, wherein said ~~selected feature is~~ product configuration selections comprise an equipment level of said vehicle.

69.   (Currently amended)   The method of claim 64, wherein said ~~selected feature is~~ product configuration selections comprise is one of a price range, a vehicle type, an engine type, a fuel economy, an interior feature and a safety feature.

70.   (New) An apparatus to provide one or more product selections to a user in accordance with an analysis of user needs, the apparatus comprising:

means for receiving product related data from the user through a communication link

coupled between a data processing system of the user and a computer system, wherein the product related data is a member of a group of information types comprising attribute information and product identifier information;

means for processing the received product related data using resources of the computer system;

means for determining which type of information is included in the received product related data;

means for processing, if the product related data is attribute information, the received product related data in accordance with product configuration information and identify one or more product configurations that meet requirements of the received attribute information, wherein the product configuration information comprises product features and product rules governing allowable combinations of the product features;

means for identifying one or more of pre-generated product configurations that corresponds to the received product related data, if the product related data is product identifier information; and

means for providing each identified product configuration and each identified pre-generated product configuration to the user via the communication link.

71.   (New) The apparatus of claim 70 further comprising:

means for receiving data indicating a user selected product, wherein the selected product corresponds to one of the identified product configurations;

means for receiving product configuration selections from the user to further configure the selected product;

means for generating configured product data corresponding to the product configuration selections associated with the selected product and in accordance with the product configuration information; and

means for providing the configured product data to the user via the communication link.

72.   (New) The apparatus of claim 70 wherein the product related data includes data related to a vehicle.

73.   (New) The computer system of claim 1 wherein the product related data includes data related to a vehicle.

74.   (New) The computer program product of claim 24 wherein the product related data includes data related to a vehicle.